

Manual 170-180
Issued 7-26-61

NR-AUDIO SQUELCH KIT

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I N T E R N A T I O N A L
Crystal Mfg. Co., Inc.
18 N. Lee
Oklahoma City, Oklahoma

NR-AUDIO SQUELCH KIT

The International Audio Squelch Kit #150-176 contains the necessary parts to add improved audio and the NR squelch to early Model Executive units. This kit is for installation in sets with Serial Number 7400 and below.

The kit contains one each of the following items:

Wired audio printed circuit unit
Wired NR-Squelch printed circuit unit
12AX7 Tube
Installation Manual

Installation of the above units is accomplished as follows:

1. Turn the transceiver on its top and remove the 4 rubber feet and their retaining screws from the bottom of the unit. Turn the unit over on its bottom plate and remove the metal case by spreading the sides out slightly and lift the case up and off the main transceiver assembly.
2. Turn the unit on its side with the top facing you and the power transformer next to the table.
3. Remove all tubes from the converter unit ("A" board) and audio unit ("C" board).
4. Disconnect all wiring from the audio unit.
5. Remove the top 4-40 nuts and #4 flat washers from the printed circuit mounting bolts on both the converter and audio boards.
6. Remove audio board from the unit and set aside. Do not remove converter board at this time.
7. Remove knobs from the volume control and the squelch control.
8. Remove the knurled nut on the volume control and set aside.
9. Pull the volume control straight back approximately 1 inch towards the rear of the unit. Let this control hang free by its wiring while you continue the installation of the NR squelch kit.
10. Unplug the green wire connected to pin #(7) on the front of the converter. Lift the converter above its mounting bolts, and let it hang, bottom side up, out the top of the unit. See illustration, Fig 2.
11. Unsolder the ground lug from the bottom squelch control lug #(1) as illustrated in Fig 1.
12. Remove the squelch control from the panel.
13. After the squelch control has been removed, place it through the N. R. Squelch bracket mounting hole as illustrated, and replace the entire assembly on the panel as shown in the illustration. Fig 1
14. Replace the knurled nut on the squelch control and tighten. Be sure the N.R. Squelch board and the squelch control are positioned as illustrated, in Fig. 1.

15. Note, that the bottom #(1) lug of the squelch control is no longer grounded.
16. Disconnect the wire from lug #(2) of the squelch control, and solder it directly to the ground lug located under squelch control lug #(1).
17. Disconnect the red wire from squelch control lug #(3). Remove the other end of this wire from pin #(4) on the IF board. Remove this wire from the unit and discard.
18. Solder the green wire from the NR squelch board to center lug #(2) on the squelch control. (Fig 1)
19. Solder the pink wire from the NR squelch board to lug #(1) on the squelch control.
20. Dress the white wire from the NR squelch board under the IF strip; bring it up around the bottom edge of the IF board and solder it to the jumper wire located between the 470K and 220K resistors. See illustration. Fig. 2
21. Solder the red wire from the NR squelch unit to the connector on pin #(3) of the IF board.
22. Remove the grounded shield and solder lug, of the white shielded cable, which runs from lug #(1) on the volume control to ground at the back-top mounting bolt for the audio board. Move the shield and solder lug foreward to the front-top mounting bolt of the audio board.
23. Install the new audio board on its mounting bolts with the 7 pin socket toward the front panel.
24. Place the #4 flat washers on each corner of the audio board and secure them with 4-40 nuts. Do not over tighten these corner nuts, the phenolic board is very brittle and may crack with too much pressure.
25. Connect the red capacitor leads coming through the metal chassis to pins #(27) and #(32) on the audio board.
26. Connect the free end of the choke from pin #(1) on the microphone socket to pin #(26) on the audio board.
27. Connect the red wire from the output-modulation transformer located between the audio board and the converter board to pin #(33) of the audio board.
28. Connect the brown wire from this same transformer to pin #(34) of the audio board.
29. Dress the yellow wire from the NR squelch through the wiring harness along the top edge of the unit, and connect it to pin #(29) on the audio board.
30. Dress the pruple wire from the NR squelch through the same harness as the yellow wire and connect it to pin #(28) on the audio board.
31. Connect the center conductor of the white shielded wire from the relay to pin #(38) on the audio board. The shield has been clipped off of the audio board end of this wire.

32. Connect the center conductor of the white shielded wire from volume control lug #(2) to pin #(30) on the audio board.
33. This leaves a yellow wire, a pink wire and a red wire free.
34. Connect the yellow filament wire to pin #(37) on the audio board.
35. Connect the pink filament wire to pin #(36) on the audio board.
36. Connect the red wire which runs down to the relay to pin #(35) on the audio board.
37. This completes the wiring of the NR Squelch Kit.
38. Replace the converter on its mounting bolts. Place a #4 flat washer on each corner and secure with 4-40 nuts. Do not over tighten. Replace the green wire coming through the chassis under the NR squelch board to pin #(7) on the converter.
39. Remount the volume control on the front panel using a lockwasher behind the panel and the knurled nut on the panel side.
40. Install the 6AQ5 tube from the old audio board in the 7 pin socket on the audio board, and a 12AX7 tube in the 9 pin audio board socket; the 6AN8 is no longer used. Install a 6BA6 tube in the 7 pin converter board socket and a 12AT7 tube in the 9 pin converter board socket.
41. Replace the volume control knob and the squelch control knob.
42. Before replacing the unit in its case, recheck your wiring steps and make sure they are correct.
43. Connect the unit to a power source.
44. Connect the antenna.
45. Turn the volume control and the squelch control full clockwise.
46. When the unit has warmed up the usual background noise should be heard. Rotate the squelch control counter-clockwise, and note as the control is rotated you will notice a slight variation in volume. Just before the squelch cuts out the background noise the volume will be at its highest point. Set the squelch to cut off and apply a modulated signal to the input. The squelch should break easily giving a loud clear signal at the speaker.
47. If the unit is functioning properly, disconnect the power line and install the unit in its case.

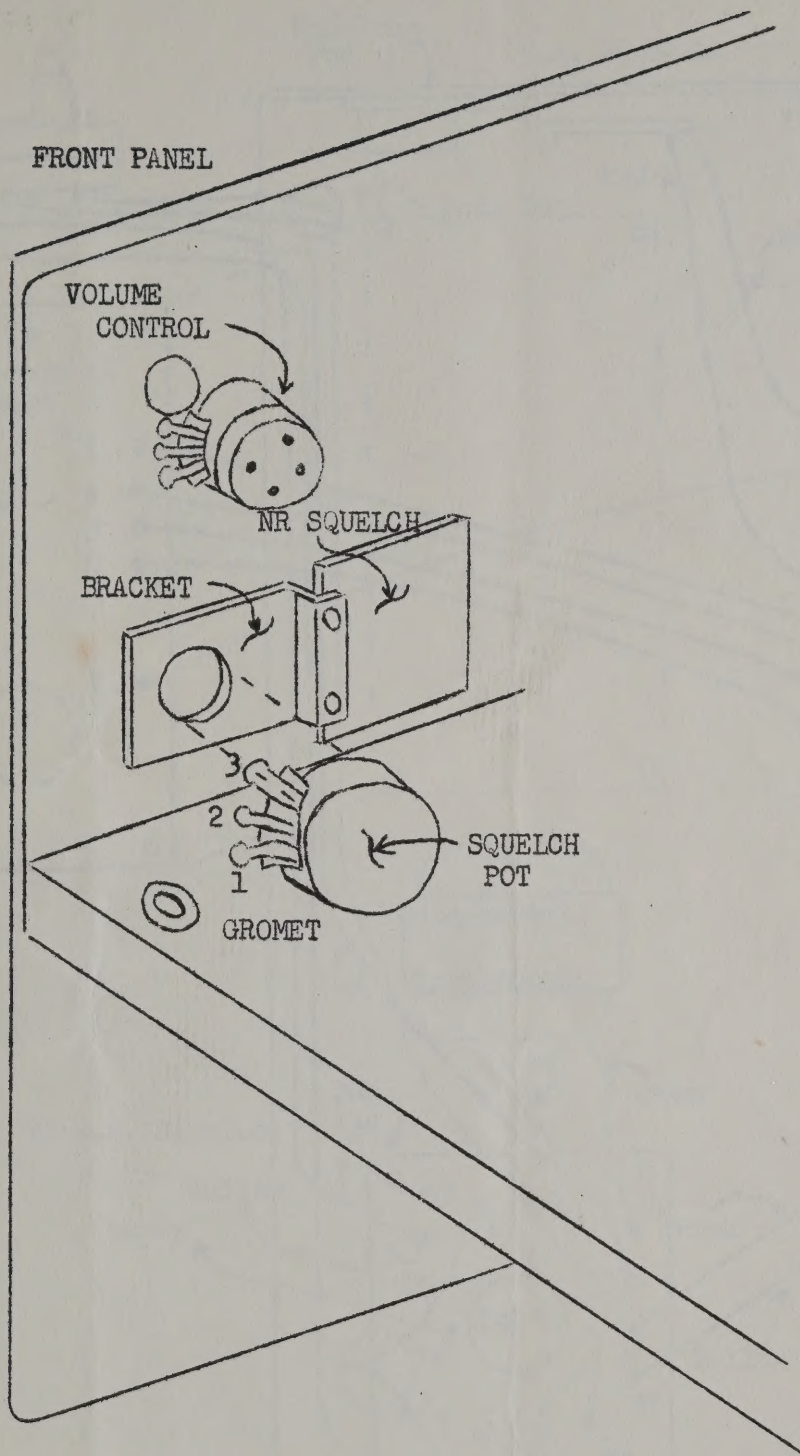
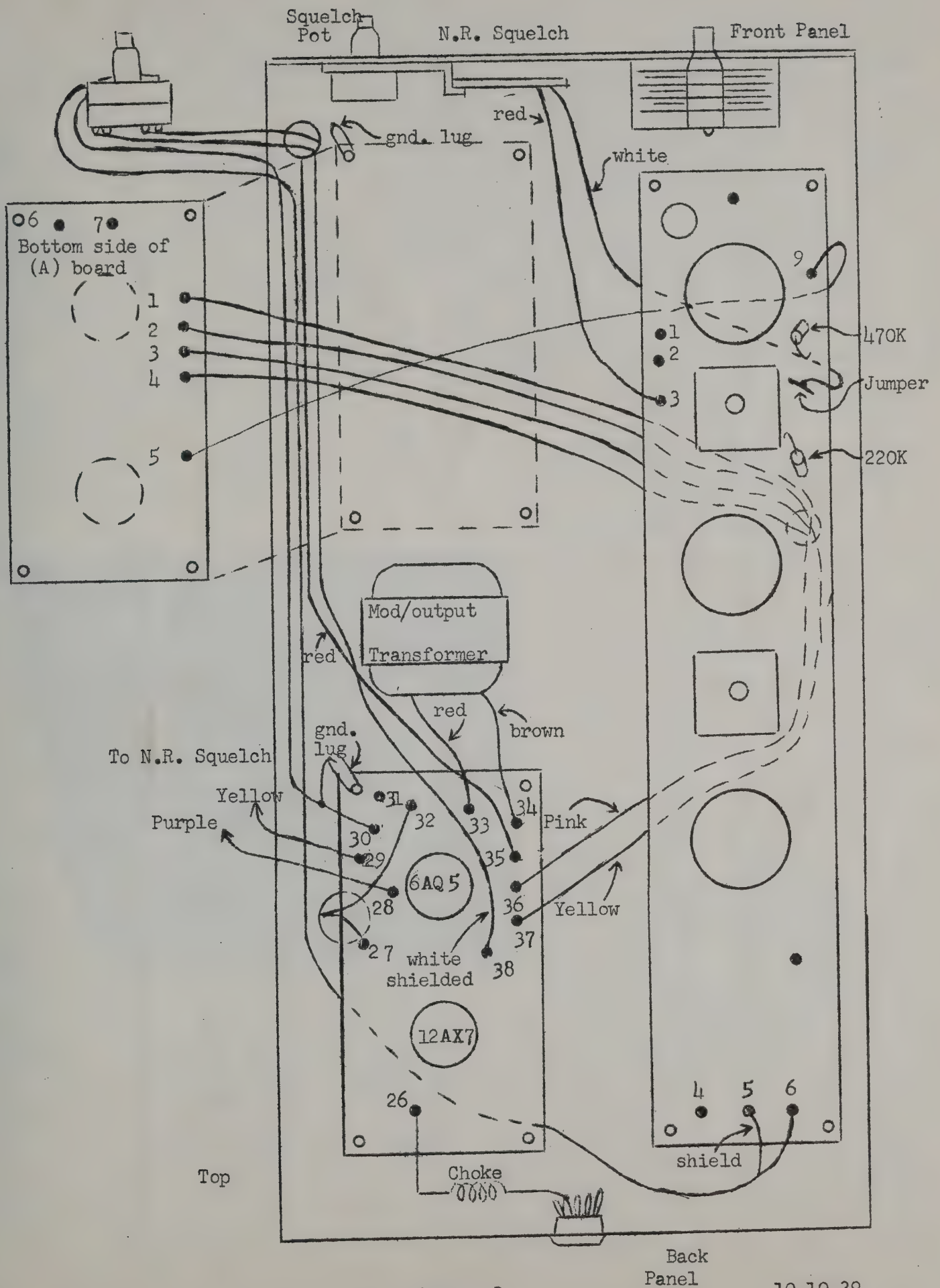
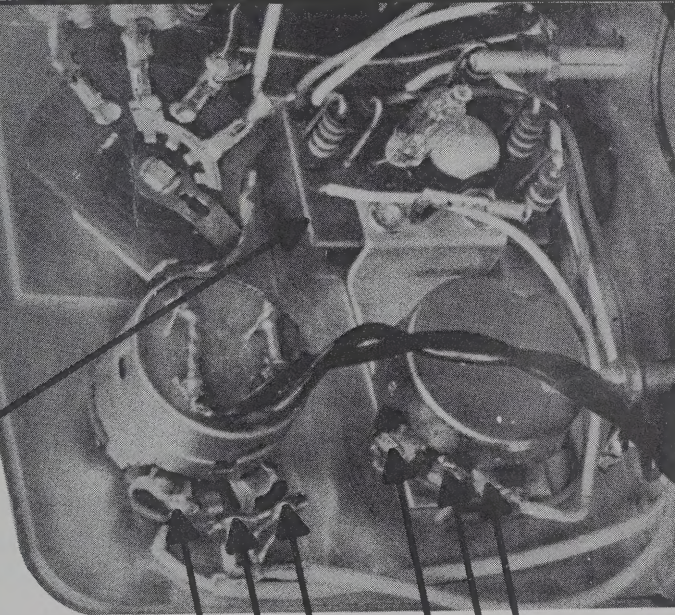


FIGURE 1

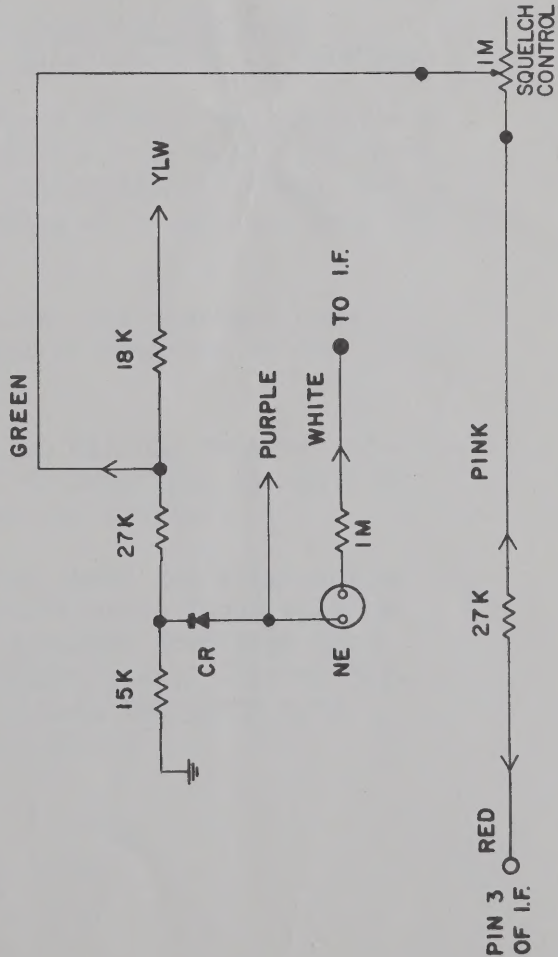
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NR-SQUELCH

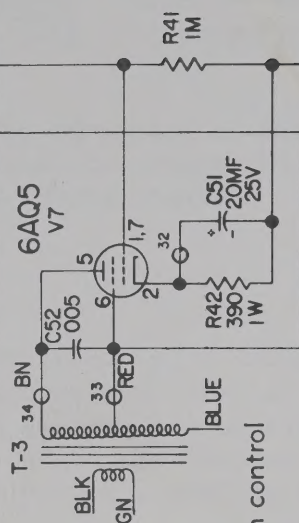
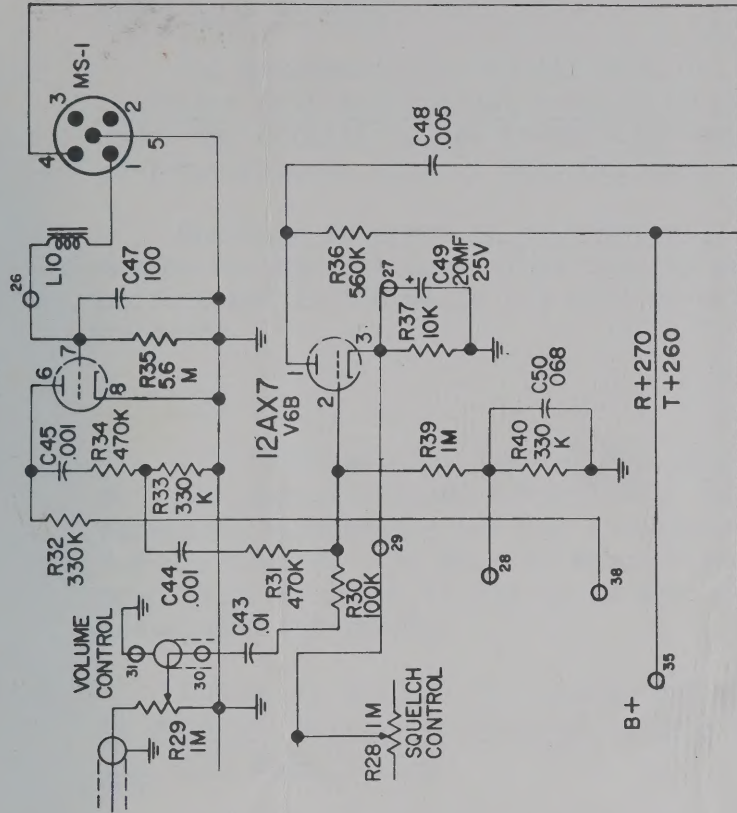


N R-SQUELCH



12AX7

V6A



Pin No.

- 26 Mic. in
- 27 To C49
- 28 To SW-3
- 29 To squelch control
- 30 Audio in
- 31 Gnd.
- 32 To C51
- 33 To trans. B+
- 34 To trans. plate
- 35 B+
- 36 12v fil.
- 37 6v fil.
- 38 B+

AUDIO UNIT

Conditions of Sale

All International Crystal Mfg. Co. products are sold on a final sale condition only and are not subject to refund. Items may be returned only under the conditions set forth below and only with the expressed permission of International Crystal Mfg. Co., Inc.

Shortage or error in shipment will be corrected no-charge upon written notice by the customer. This company cannot be responsible for delays encountered in the mails but will do everything possible to insure speedy delivery.

Warranty

All International Crystal Mfg. products are sold under Warranty to meet the specifications advertised. International Crystal Mfg. Co., Inc. cannot be responsible for the associated equipment with which their products are used. It must be assumed the customers responsibility for the proper installation of the units and the proper operating condition of associated equipment.

Units are subject to return only under the policy listed below.
No material should be returned without first obtaining a RETURN MATERIAL TAG from this Company.

Return Material Policy

(Electronic Kits and Subassemblies)

Do not return items without obtaining a Return Material Tag from International Crystal Mfg. Co., Inc. 18 North Lee, Oklahoma City 2, Oklahoma.

All kits and wired subassemblies are manufactured to meet the advertised specifications. In all cases the customer skill and the equipment with which he uses the units will affect their performance. International Crystal can therefore not be responsible for the overall operation of a unit but only the unit itself.

When units are returned they will be tested under our standard conditions and when found to be operating properly will be returned to the customer with full details.

Units purchased wired, and found to be defective will be repaired no-charge if such unit is returned within a period of 90 days from the date of purchase, where registration card is on file (where applicable).

Units purchased in kit form may be returned for check and alignment as listed in the instructions of each kit. Any defective parts found will be replaced for a period of 90 days from the date of purchase no-charge providing the kit registration card is on file with International Crystal Mfg. Parts will be charged at cost beyond this period or when the parts have been damaged by the customer during assembly of the kit.

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